

Spiritual Intelligence and Employee Outcomes in an African Sample

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A chorus of scholarly voices has echoed the significance of spiritual intelligence in organizational settings. This paper provides fresh insights by investigating the relationship between spiritual intelligence (SI) and workplace outcomes using David King's four-factor Spiritual Intelligence Self-Report Inventory (SISRI-24). The study was conducted in Nigeria, a sub-Saharan African country, using a sample of 216 employees of a private university selected in a non-probabilistic sample. There was a significant relationship between SI and workplace outcomes such as job performance, job commitment, and job satisfaction. However, the effects of the dimensions of SI on workplace outcomes are varied. These results bring to fore the existence of possible variations in the meaning and dimensions of spiritual intelligence; and their effects on workplace outcomes across contexts. As spiritual intelligence correlates with positive employee outcomes, organizations should invest in discovering, developing, and deploying this domain of intelligence.

Keywords: spiritual intelligence; workplace spirituality; job performance; job commitment; job satisfaction; Spiritual Intelligence Self-Report Inventory (SISRI-24); employee outcomes

Introduction

The non-recognition of spiritual intelligence as a component of human resources is a costly business error of the modern organization. According to the late Warren Bennis, distinguished professor and pioneer of contemporary leadership studies, “...*the underlying cause of organizational dysfunctions, ineffectiveness and all manner of human stress is the lack of spiritual foundation in the workplace*” (Mitroff and Denton, 1999, xi). Multiple challenges, such as unethical leadership, sharp and fraudulent practices, and counterproductive behaviors threaten the existence of many organizations. In the light of these challenges and to prevent *things from falling apart*, a viable option might be to look inward and upward.

Studies have found a relationship between high levels of spiritual intelligence in employees and a happier, healthier, and more productive work environment (Tischler, Biberman and

McKeage, 2002; Yang, 2006). This is because spiritual intelligence can influence attitudes and perceptions, enabling self-direction and motivation in complex situations (Zohar and Marshall, 2004). High levels of spiritual intelligence can be useful in bringing meaning, importance, and general enrichment to lives. Spiritual intelligence will promote a positive organizational climate, employee commitment, performance, and ethical standards within an organization (Hildebrant, 2011; Marques, 2006). A significant relationship exists between spirituality and work-related variables such as work ethic, motivation, organizational performance, leadership, job satisfaction, organizational commitment, and organizational citizenship behaviors (Affeldt and MacDonald, 2010; Cowan, 2005; Anwar and Osman-Gani, 2015). This finding indicates the relevance of spirituality components to both employees and organizations. However, compared to spiritual intelligence, cognitive and emotional intelligence are more prevalent in management literature as correlates of several positive employee outcomes (Oyewunmi, 2018).

The concept of spiritual intelligence is relatively in its early phases of research, particularly within the African context. To our knowledge, there is no study on the effects of spiritual intelligence on employee outcomes, or in broad terms, the impact of spiritual intelligence in the African workplace. This paper explores the effect of spiritual intelligence and its dimensions on job performance, job commitment, and job satisfaction using data from an African sample. The African context presents a myriad of conditions that can prove challenging to existence and survival. Surviving and excelling in challenging life conditions require spiritual intelligence and other multiple intelligences (Wigglesworth, 2006). Africans are also profoundly religious, with many religions co-existing side by side, socio-cultural beliefs are rooted in religion, and local customs are still very influential in people's lives (Agbiji and Swart, 2015; Akinloye, 2018; Mbiti, 1999). Consequently, understanding the effects of spiritual intelligence, and its dimensions, on employee outcomes using an African sample

promises to shed light on the generalizability of the utility of spiritual intelligence across socio-cultural and geographical contexts. The study also contributes by using a sample of university staff rather than university students, as in previous studies (King, 2008; Chan and Siu, 2016).

Literature and Hypotheses

Spiritual Intelligence: Conceptual Clarification

The works of Thorndike (1920), Gardner (1983), Payne (1985), Sternberg (1985), Salovey and Mayer (1990) and Goleman (1995), have been instrumental in comprehending the multidimensionality of the intelligence concept. Gardner's (1983) theory of multiple intelligences explicates the independent forms of intelligence, including linguistic, logical-mathematical, spatial, musical, bodily-kinesthetic, intrapersonal, interpersonal, naturalistic, and existential intelligence, which Gardner (1983) refers to as a half intelligence. Gardner (2006) disputes the authenticity of spiritual intelligence because "*those of a scientific bent cannot take seriously any discussion of the spirit or the soul; it smacks of mysticism*", and excluding the phenomenological dimensions of spirituality from intellectual discourse is best (Gardner, 2000, 2009). Mayer (2000) argues that in practice, spiritual intelligence is difficult to differentiate from spirituality and that it does not include abstract thinking, which is a criterion for intelligence. He also suggests that rather than spiritual intelligence, spiritual consciousness is perhaps a more accurate description. Edwards (2003) proposes that the acceptance of spiritual intelligence as a construct must be based on its autonomy from other types of intelligence; its relevance in resolving issues of a spiritual nature and distinction from knowledge and spirituality. Kwilecki (2000) states that spirituality may be a valid mode of intelligence, which presents a different dimension to understanding life issues.

Several researchers have attempted to conceptualize spiritual intelligence (Amram, 2009; Edwards, 2003; Emmons, 2000a; King, 2008; Nasel and Haynes, 2005; Vialle, 2007; Zohar and Marshall, 2000). However, the lack of consensus in defining spirituality necessitates exploratory rather than definitive conceptualizations of spiritual intelligence (Vaughan, 2002). According to Emmons (2000a), spiritual intelligence is *“the adaptive use of spiritual information to facilitate everyday problem solving and goal attainment”* (176). He identifies the five (5) components of spiritual intelligence as *(1) the capacity to transcend the physical and material (2) ability to experience heightened states of consciousness (3) ability to sanctify everyday experiences (4) ability to utilize spiritual resources to resolve problems (5) capacity to be virtuous* (3.). Mayer (2000) questions Emmons’ (2000a) fifth component, noting that virtuosity is a subjective term (i.e. the demonstration of virtues in some people may be insincere; some people may demonstrate virtuous behavior not because they are *spiritually intelligent* but due to factors such as social learning or some past experiences). Consequently, Emmons (2000b) retracted component five, stating that:

In light of these cogent arguments (Mayer, 2000; Gardner, 2000), I am willing to (at least for now) take the conservative route and remove the ‘capacity to engage in virtuous behavior from the list of the core components of spiritual intelligence. Although I maintain that these characteristics often lead to intelligent living and effectiveness, they are not part and parcel of a mental ability’s conception of intelligence. (60)

Noble (2000) highlights two (2) more components of spiritual intelligence which are, *“the conscious recognition that physical reality is embedded within a larger, multidimensional reality with which we interact”* (3), and the quest for psychological health in self and others (Noble, 2001). Zohar and Marshall (2000) define spiritual intelligence as *“the intelligence with*

which we can place our actions and our lives in a wider, richer, meaning-giving context, the intelligence with which we can assess that one course of action or one life-path is more meaningful than another” (3-4). Edwards (2003) cautions on differentiating the usage of spiritual intelligence to solve spiritual issues and its adoption in addressing matters of a non-spiritual nature. He states that spiritual intelligence combines the personality traits, cognitive processes, and spiritual qualities of an individual. Individual characteristics identified with spiritual intelligence include truth, humility, appreciation and respect for differences, charity, and service (Ronel, 2008; Vaughan, 2002). The integrative characteristic of spiritual intelligence implies that when increased, it could positively impact the development of other intelligences (Wigglesworth, 2012). King (2008) describes spiritual intelligence as “*a set of mental capacities which contribute to the awareness, integration and adaptive application of the non-material and transcendental aspects of one’s existence, leading to such outcomes as deep existential reflection, enhancement of meaning, recognition of transcendent self and mastery of spiritual states*” (54). The authors of this paper recognize the complexity of defining spiritual intelligence because of the diverse interpretations and perspectives. For the present study, King’s (2008) definition of spiritual intelligence is adopted because of its relevance to the research objectives.

It is important to emphasize that spiritual intelligence, religion, and spirituality are interconnected concepts. Religion is characterized by a belief system, community, central myths, ritual, ethics, emotional experiences, material expression, and sacredness (Molloy, 2008). Cardwell (1980) states that the four (4) dimensions of religiosity include “*the cognitive dimension, concerned with what individuals know about religion, i.e., religious knowledge; the cultic dimension makes reference to the individual’s religious practices, i.e., ritualistic behavior; the creedal dimension, concerned with a personal religious belief, and the devotional*

dimension referring to a person's religious" (6). MacDonald *et al.* (2015) state that *'spirituality is a natural aspect of human functioning which relates to a special class of non-ordinary experiences and the beliefs, attitudes, and behaviors that cause, co-occur and result from such experiences'* (5). Spencer (2012) defines spirituality as the knowledge that life has significance and purpose beyond the mundane everyday existence at the level of biological needs. Spirituality is a multidimensional concept that is defined in three (3) frameworks as proposed by Spilka (1993): i) a God-oriented spirituality where thought and practice are premised in theologies, either broadly or narrowly conceived; ii) a world-oriented spirituality emphasizing human relationship with ecology or nature and; iii) a humanistic or people-oriented spirituality that emphasizes human achievement or potential.

Spiritual Intelligence and Employee Outcomes

Employee outcomes are work-related behavioral patterns and attitudes (Wright and Kehoe, 2013). In this paper, alongside spiritual intelligence, we focus on the interrelated outcomes of job performance, job commitment, and job satisfaction. Job performance refers to the employee's ability to accomplish or execute assigned tasks. Borman and Motowidlo (1997) categorize performance as task and contextual performance. Task performance is described as individual actions that contribute to organizational performance and are consistent with expectations as indicated by the employment contract. Contextual performance signifies employee behavior that is not directly related to but facilitates organizational performance. This includes actions such as supporting or assisting colleagues, going the extra mile, and abiding by organizational rules. According to Tischler, Biberman, and McKeage (2002), there is a significant causal relationship between the behavioral traits of spirituality and job performance. Specific traits of spirituality such as high-self esteem, self-actualization, adaptability, independence, and positive values are related to increased workplace

performance. The greater meaning, depth, self, and social awareness that results from spiritual intelligence facilitates effectiveness, a sense of purpose, work ethic, and productive engagements on multiple levels (Sisk and Torrance, 2001).

A study of healthcare workers by Duchon and Plowman (2005) found a significant relationship between spiritual intelligence, leadership effectiveness, and work performance. Malik and Tariq (2016) found a significant positive relationship between spiritual intelligence and job performance, regardless of gender. Khawaja (2017) surveyed medical doctors in Pakistan and reported a relationship between spiritual intelligence and task performance. Khandan, Eyin and Kooh-Paei (2017) found a relationship between spiritual intelligence and nurses' job performance. In Malaysia, Rani, Abidin, and Ab Hamid (2013) established a positive correlation between spiritual intelligence and job performance. Yang (2006) suggests that spiritual intelligence trainings are likely to facilitate job performance.

Allen and Meyer's (1990) three-component model is widely adopted in job commitment research. Affective commitment is employees' emotional attachment and identification with their organization. Continuance commitment is employees' recognition of the cost attached to leaving their organization and deciding to stay because they need to. Normative commitment refers to employees' feeling of obligation to stay with their organization. One of the reasons why job commitment has generated research attention is that organizations depend on dedicated employees to achieve a competitive advantage. Spiritually intelligent employees are likely to exhibit affective and normative commitment to their organizations (Amram, 2009). Wang and Wang (2015) sampled 316 respondents. They found that the dimensions of spiritual intelligence have a positive influence on organizational commitment, and perceived organizational support mediates the relationship between the spiritual intelligence dimensions

and organizational commitment. Ravikumar and Dhamodharan (2014) also report a positive correlation between spiritual intelligence and job commitment.

Hoppock (1935) introduced the concept of job satisfaction in management research and defined it as “*any combination of psychological, physiological and environmental circumstances that cause a person truthfully to say I am satisfied with my job*” (47). Job satisfaction is an affective state emanating from employees’ perception of their job and the degree to which expectations are met (Pool & Pool, 2007). It is the extent to which people like or enjoy their jobs (Spector, 2006), which generates positive attitudes in the workplace (Armstrong, 2009). An array of psychological, physiological, and environmental factors determines the feeling of satisfaction or dissatisfaction. These factors may be intrinsic or extrinsic; individual or contextual. High levels of spirituality have been argued to be indicative of overall wellbeing, work and life satisfaction (Perrone, Webb, Wright Jackson and Ksiazak, 2006). Koražija, Šarotar Žižek and Mumel (2016) found a positive relationship between employees’ spiritual intelligence and job satisfaction. They argue that developing employees’ spiritual intelligence has positive implications for job satisfaction, performance, and commitment. Jehoudar and Goodarzi (2012) surveyed teachers in Iran and found a significant positive relationship between teachers’ spiritual intelligence and job satisfaction. Empirical evidence from Indonesia indicates a positive relationship between employees’ spiritual intelligence and job satisfaction (Tehubijuluw, 2014). However, Rastgar, Davoudi, Oraji, and Abbasian (2012) report that there was no significant correlation between spiritual intelligence and job satisfaction.

King and DeCicco (2009) propose four (4) main dimensions or abilities that form spiritual intelligence. In line with Gardner’s (1983) intelligence criteria, the four-factor model seeks to capture all the abilities that constitute the construct of spiritual intelligence. All four abilities,

like the construct they measure, are based on the concept of spirituality. The first of these abilities is Critical Existential Thinking (CET), which means reflecting critically, questioning one's existence, and arriving at a personal philosophy. This ability to make sense of life's fundamental questions is considered beneficial for human psycho-social wellbeing (Allan and Shearer, 2012). The second ability, Personal Meaning Production (PMP), is the capacity to find meaning and purpose in physical and mental experiences and being able to master life's purpose. It is a vital dimension required for mental activity, adaptation, problem-solving, coping, and wellbeing (King, 2010b). The third component, Transcendental Awareness (TA) Transcendental awareness "*is defined as the capacity to identify transcendent dimensions of the self (a transpersonal or transcendent self), of others, and of the physical world (non-materialism, holism) during the normal, waking state of consciousness, accompanied by the capacity to identify their relationship to one's self and to the physical*" (King, 2010a, 15). The final dimension, Conscious State Expansion (CSE), is "*the ability to enter and exit higher or 'spiritual' states of consciousness (such as pure consciousness, cosmic consciousness, unity, oneness) at one's own discretion (as in deep contemplation, meditation, prayer, etc.)*" (19).

Given the findings presented above and the limited studies on the relationship between spiritual intelligence and employee outcomes in Africa, we adopt King and DeCicco's (2009) four dimensions to investigate the relationship in an African sample. Aside from this primary objective, it was also imperative to ascertain the contribution of each of King and DeCicco's (2009) dimensions to employee outcomes. To this end, the following hypotheses were formulated:

Hypothesis 1: Spiritual intelligence predicts job performance

Hypothesis 1a: Each of the four dimensions of spiritual intelligence, CET, TA, PMP, and CSE, predicts job performance

Hypothesis 2: Spiritual intelligence predicts job commitment

Hypothesis 2a: Each of the four dimensions of spiritual intelligence, CET, TA, PMP, and CSE, predicts job commitment

Hypothesis 3: Spiritual intelligence predicts job satisfaction

Hypothesis 3a: Each of the four dimensions of spiritual intelligence, CET, TA, PMP, and CSE, predicts job satisfaction

Research Context and Methods

Overview of Religio-Spiritual Context

In Africa, the interrelated concepts of spirituality and religion are cultural-contextual and multidimensional¹. This makes it somewhat problematic to analyze, particularly within the limitations of this research and considering that accounts of religious/spiritual phenomena are rarely objective (Cannolly, 1999). Nevertheless, it is necessary to highlight the essential facets that depict the context of the study. It is noteworthy that Africa is a continent with heterogeneous groups. Although there is no homogeneity of spirituality and religion, certain aspects i.e., core beliefs, are consistent across these groups². In Nigeria and many parts of Africa, religion is at the core of culture, exerting considerable influence on worldview and

¹ African religion is believed to encapsulate spirituality both embedded in culture. Religion and spirituality are often used interchangeably (see Olupona, 1991). For Christianity and Islam, there might be arguable distinctions between being a member of a religion (or religiosity) and being spiritual.

² This consistency in core aspects makes it plausible to construe African spirituality and religion in a unified rather than pluralistic sense.

behavior. Belief in a supreme omniscient being is entrenched in the collective psyche and reflected in the rich diversity of religious traditions. Human beings, animals and nature are believed to have “*their own existence and place in the universe as independent parts of a whole*” (Turaki, 1999, 95) and powerful supernatural beings/forces exist and are believed to influence the prosperity or adversity of humans daily existence (Olupona, 1991). African spirituality or religion is holistic and informs every aspect of life, including birth, interpersonal relations, marriage, career, lifestyle, and death. As Gyekye (1996, 4) observed, “*to be born into African society is to be born into a culture that is intensely and pervasively religious and that means, and requires participating in the religious beliefs and rituals of the community.*”

Nigeria, a sub-Saharan African country, has 250 ethnic groups and over 500 indigenous languages (Blench, 2014). These groups practiced forms of traditional religion passed down over generations. The advent of British rule in the early 20th century transformed the socio-cultural landscape, drastically altering traditional modes of worship as colonialists restricted the practice of traditional religions. As Williamson (1974, 56) noted, “*the people to whom Europe offered its faith were themselves possessed of religious practices and rites which came to bear a variety of descriptive names...indigenous religious practice was idolatry or superstition, or came to be known, inaccurately, as fetishism*”. Over time, Christianity and Islam gained popularity and acceptance partly because of aggressive evangelism³ by missionaries. Statistics estimate that 50% of Nigerians practice Islam, 40% are Christians, the 10% remainder practice traditional religions⁴ (George and Amusan, 2012).

³Muslim Jihad spread Islam across West Africa; Christian missionary expeditions led to widespread conversions.

⁴ Islam is more dominant in Northern Nigeria, while Christianity is more dominant in the South.

The fact that traditional religions are no longer as prominent as Christianity and Islam do not relegate their vitality and significance in influencing thought and behavior. To a large extent, the foundations for cultural expression are intertwined and channeled through traditional mediums. Conversion to either of the major religions does not connote the loss of traditional religious beliefs of the converted because these beliefs “*always persist as the base and foundation of any subsequent conversion*” (Mulago, 1991, 128). Persons considered as *devoted* Christians or *faithful* Muslims may participate in traditional festivals, rituals, and spiritual ceremonies⁵. Participation in indigenous spirituality may also be indirect or unconscious through expressions of religio-cultural values, myths and practices passed down from one generation to another through socialization. For some others, religious imperialism has forced them into spiritual closets, making their engagement with indigenous spirituality covert. This hybridization of religious identities that sometimes conflict and at other times converge, birth a spirituality that is peculiar, complicated yet fascinating.

It is almost impossible to discuss religion and spirituality in Nigeria without including the political and socio-economic environment. A dichotomy between political and socio-economic processes in this context is slightly complicated. Therefore, it is deemed pragmatic to unify both aspects, as the incentive to align with mainstream political interests is driven mainly by widening socio-economic gaps. Religion becomes politicized as religious organizations galvanize members’ support for preferred political agendas. This interaction between political and religious institutions undermines the critical prerogative of the latter, especially on pressing matters of social malaise and moral bankruptcy of the governing class.

⁵ *Syncretism is common, along with the belief that religions can be combined for more spiritual potency, especially when life exigencies come to fore.*

Another dimension to this interaction is the several instances of religious intolerance that manifest in violent inter-religious crises, bigotry, fanaticism, monopoly of religious truths, unhealthy rivalry, and incitement (Alanamu, 2003). In effect, religion and spirituality are often driven by socio-economic failings, collective apprehensions and unfulfilled expectations that compel an affinity for religio-spiritual alternatives⁶. Nigeria has been described as one of the most religious nations in the world⁷, one of the most corrupt nations, poverty capital of the world and yet, the happiest nation in the world (Onaiyekan, 2010). These descriptions ultimately present a paradox that is further testament to the nature and scope of the research context's peculiarity.

Scope of Research

Employees of a private university in Nigeria were selected as participants in the study. A tertiary educational institution was chosen because previous studies that had used the SISRI-24 were also conducted in university settings, although with students. Thus, a university setting was adopted to enable a comparison between our study and previous studies.

Sample, Data and Measures

The sample for the study was conveniently selected from the academic and administrative staff of a private university in Nigeria. A total of 500 paper questionnaires were physically

⁶ A 1998 New York Times Report titled, ***The World: Religion in Nigeria; It's a Land Where God Is Working Overtime*** states that: God, constantly invoked, works overtime in Nigeria. He alone, for many people, can explain how an oil-rich country came to find itself without gasoline... If there is a single refrain from the suffering, it is: "What this country needs is a God-fearing ruler."

⁷ The embodiment of religion and spirituality is best exemplified by the positive and enduring values it generates. Religiosity that does not enthrone political, social and economic imperatives such as the rule of law, service-oriented leadership, sustainable market structures, investment in human and material resources etc. is flawed, especially when there is no sincere effort to reverse the trend.

distributed to the staff that were available on the days of distribution. Consequently, the questionnaires were not distributed to all the staff of the university, only to those available until the 500 questionnaires were exhausted. The questionnaires were retrieved in subsequent days. A total of 216 questionnaires were retrieved, giving a response rate of 43.2%. Specifically, 115 males and 101 females participated in the survey (see Table 1). Most of the respondents were within two age brackets: 21-30 years and 31-40 years as more than 79% of the respondents were within this age bracket with an almost equal distribution between the two age brackets. This is not surprising given that the population in Nigeria and SSA, in general, is relatively young (UN, 2017). 95.4% of respondents had at least a first degree, with 25.5% having a doctorate (See table 1). Also, most of the respondents were married as only 33.3% had a single marital status, 63% were married, while 8% refused to disclose their marital status. The academic staff at the educational institution that participated in the survey constituted 52.3% of the respondents, while 47.7% of respondents were administrative staff.

Several models have been proposed as measures of spiritual intelligence (Amram and Dryer, 2008; Emmons, 2000a; Wolman, 2001). King (2008) developed the four-factor model of spiritual intelligence, which has been widely adopted by many studies in the subject area. King's (2008) SISRI-24 comprises critical existential thinking, personal meaning production, transcendental awareness and conscious state expansion. While SISRI-24 has been widely adopted by many spiritual intelligence researchers, it has been criticized by others (e.g., Giannone and Kaplin, 2017). Despite this criticism, we chose the SISRI-24 as it is adaptable, widely used, and in our estimation, appropriate for the study. Examples of studies that have adopted or adapted SISRI-24 include Antunes, Silva, and Oliveira's (2018) research in Portugal, Chan and Siu (2016) in Hong Kong, Anbugueetha (2015), and Ravikumar and Dhamodharan (2014) in India, and Heravi-Karimooi, Rejeh and Nia (2014) in Iran. SISRI-24

has also been translated into other languages and used to study spiritual intelligence of students in Romania by Vancea (2014).

The questionnaire used for the study consisted of three main sections. The first section was to survey basic demographic information of the respondents. This section consisted of six items to solicit for the gender, age, marital status, highest educational qualification, staff designation, and respondents' tenure. As mentioned previously, the items used to measure spiritual intelligence were adopted from SISRI-24 (King and DeCicco, 2009) and were included in the second main section, which had four sub-sections. Each sub-section consisted of items to measure the four different dimensions of spiritual intelligence in the four-factor model: Critical Existential Thinking (CET), Personal Meaning Production (PMP), Transcendental Awareness (TA), and Conscious State Expansion (CSE). Thus, unlike the SISRI-24, in which the 24 items measuring the four dimensions were scattered randomly, items used to measure each dimension were grouped. However, respondents were not aware of what was being measured as the dimensions were not stated in the survey. The SISRI-24 was fully adopted for the study without any change to the wordings of the items.

Finally, items were included in a third section to measure job performance, job commitment, and job satisfaction (William and Anderson, 1991; Meyer and Allen, 1991; Spector, 1985), the three dependent variables in hypotheses one, two, and three. A five-point Likert-type scale was utilized in the second and third sections of the survey with responses ranging from strongly agree to strongly disagree. For all items, except for the sole item to which reverse-coding was applied, strongly disagreed was coded 0, agreed was coded 1, undecided was coded 2, disagreed was coded 3, while strongly agreed was coded 4. This was to align with King and

DeCicco (2009). Consequently, for each sub-scale, high scores meant higher levels of that dimension of spiritual intelligence measured by that sub-scale.

Statistical Analysis

Four different models were analyzed using Confirmatory Factor Analysis (CFA) to test the fitness of the data to the model. The fit of the four-factor model to the data was then tested using various fit parameters such as the Comparative Fit Index (CFI), Goodness of Fit Index (GFI), Adjusted Goodness of Fit Index (AGFI), Steiger's (1990) Root Mean Square Error of Approximation (RMSEA), and the ratio of the chi-square to the degrees of freedom of the model also sometimes referred to as the relative or normed chi-square (Hooper, Coughlan and Mullen, 2008). In a second model, two SISRI-24 items were removed from the model. The first, item 14 – "It is difficult for me to sense anything other than the physical and material" – was removed because it had a negative loading. Upon further investigation, it was discovered that the wording of the item was reversed. The item also had a low R^2 of 0.02. The second item, item 12 – "I can find meaning and purpose in my everyday experiences" – also had a low R^2 of 0.14. However, subsequent analysis of model 2 also revealed a very low fit with the data. In a third model, another item, item 18 – "I recognize qualities in people which are more meaningful than their body, personality, or emotions" – was also removed because of low loading and R^2 . Item 7 – "I have deeply contemplated if there is some greater power or force (e.g., God, god, goddess, divine being, higher energy, etc.)" – was removed in the final model, model 4. The final model analyzed consisted of 20 items from the initial 24-item pool from SISRI-24. Items for CET were reduced from 7 to 6, PMP was reduced from 5 items to 4 items, while the number of items for TA decreased from 7 to 5. CSE was the only sub-scale that remained the same in the final model.

Reliability was measured with Cronbach's Alpha at 0.906 for the 24-item pool adopted from SISRI-24 (for spiritual intelligence) and 0.915 for model 4. The measurement reliability for the sub-scales, CET, PMP, TA, and CSE was well above the acceptable threshold of 0.70 in all models. However, measurement reliability for the sub-scales improved with each subsequent model analyzed. For model 1, Cronbach's Alpha for the sub-scales were 0.795, 0.851, 0.672, and 0.880 for CET, PMP, TA, and CSE respectively while it was 0.807, 0.843, 0.819, and 0.880 for each of the sub-scales in model 4. Thus, all met the minimum requirement of 0.70. Finally, RMSEA for model 1 was 0.16 with a 90% confidence interval extending from 0.15 to 0.17. The RMSEA is well above the generally acceptable level of 0.05. Comparative Fit Index (CFI) for model one was 0.81. In addition, the ratio of chi-square to the degrees of freedom, 1:33.25, was well above the acceptable threshold of 1:3. Model 4, on the other hand, had a CFI of 0.83, and a ratio of chi-square to degrees of freedom of 1:32.77. RMSEA for the model remained at 0.16 with a 90% confidence interval of 0.15 to 0.17. Other fit indices were also quite poor. For example, the Goodness of Fit Index (GFI) was 0.66, the Adjusted Goodness of Fit Index (AGFI) was also poor at 0.57.

Removal of items from an instrument ordinarily reduces the value of Cronbach's alpha (Hoekstra et al., 2019) as "*alpha is maximised when every item in a scale shares common variance with at least some other items in the scale*" (Gardner, 1995, 286, emphasis in original). Cronbach's alpha is increased when the items measure the same concept (Tavakol and Dennick, 2011). For our sample, Cronbach's alpha for spiritual intelligence increased from 0.906 in model 1 to 0.915 in model because of the removal of some items. Specifically, the increase in Cronbach's alpha for two dimensions of spiritual intelligence, CET and TA, was the major reason for this overall increase. These removals should have reduced the value of Cronbach's alpha. For the dimension, CET, the item removed was item 7, which states, "I have

deeply contemplated if there is some greater power or force (e.g., God, god, goddess, divine being, higher energy, etc.).” The removal of this item increased Cronbach’s alpha from 0.795 to 0.807. For TA, the removal of two items increased Cronbach’s alpha from 0.672 to 0.819. This is a massive increase in reliability of about 22%. The two items are “It is difficult for me to sense anything other than the physical and material” and “I recognize qualities in people which are more meaningful than their body, personality, or emotions.”

The hypotheses were tested using linear regression with IBM SPSS 23 utilizing the construct of spiritual intelligence derived. Thus, linear regressions were conducted for the construct in all CFA models. However, only the linear regression results using model 4 are shown for two major reasons (See table 4). First, the linear regression results were not substantially affected by the exclusion of items from SISRI-24. Indeed, the results only improved with each model. The second reason was for a more compact analysis. The R^2 and significant levels of model 1 are however presented in latter parts of this results section.

Insert Table 1, 2 & 3 about here

Results

Correlations between the sub-scales (presented in tables 2 and 3) are all significant at 0.01 and within the moderate-strong range, except the correlation between PMP and TA, which is high at 0.91. Intelligence theory suggests that abilities that measure intelligence should be moderately correlated (e.g., Jensen, 2003).

Positive relationships were found between spiritual intelligence and job performance, job commitment, and job satisfaction. For hypothesis one, in model 1, R^2 was 0.046, and the hypothesis was significant at 0.002 while, R^2 was 0.040 and significant at 0.003 in model 4 (See table 4 for regression results). For hypothesis two, R^2 was 0.018 and significant at 0.05 in model 1. Model 4 showed that R^2 remained at 0.018 and was significant at 0.048. Finally, results for hypothesis three showed R^2 of 0.073, which is significant at 0.0001 in model 1, and R^2 of 0.086 significant at 0.0001.

Insert tables 4 & 5 about here

Thus, the results show that hypotheses 1, 2, and 3 are all significant. Although spiritual intelligence accounts for a small variation in job performance, job commitment, and job satisfaction, the results show that the relationship between spiritual intelligence and job performance, job commitment, and job satisfaction is significant.

In the subsequent analysis to test hypotheses 1a, 2a, and 3a, the effects of the four dimensions of SI were tested for nuances and the sub-scales were included in the models individually, as CET, PMP, TA, and CSE, rather than as one whole scale of SI. Our results revealed that the four dimensions of SI have different effects on the employee outcomes measured. While the effect of PMP on job performance, job commitment, and job satisfaction was not significant in any of the models, the effect of CET on these employee outcomes was significant but negative in all the models. The effect of TA and CSE remained positive and significant. Further analysis

of the effects of each of the four dimensions in simple linear models yielded similar results. However, since our primary interest is in SI, as a construct, and not the specific dimensions, we defer to the multiple regressions of the dimensions and do not present the results of the simple regressions⁸ (See table 5). Results also revealed that the variance explained, R^2 , by the multiple regression models increased substantially. Thus, using the sub-dimensions of spiritual intelligence increased the variation in job performance, job commitment, and job satisfaction. These additional results are a further confirmation of hypotheses one, two, and three. The implications of these results of the additional analysis are discussed below.

Discussion, Limitations, and Future Research Directions

The findings of this study indicate that employees with high levels of spiritual intelligence, perform better at their jobs, are more committed, and are generally more satisfied with their jobs. One major implication of this is that organizations may need to take cognizance of the importance of spiritual intelligence to employee outcomes and facilitate higher spiritual intelligence amongst employees either by; conducting appropriate training or instituting requisite policies and practices.

However, this study brings to focus the existence of likely variations in the meaning of spiritual intelligence as the data was a poor fit to the model. The high correlation between personal meaning production and transcendental awareness further alludes to possible variations in interpretation. Thus, what people understand as spiritual intelligence may vary across contexts as people in different cultural, religious, and socio-economic contexts may interpret spiritual

⁸However, results of the linear regressions are available on request from the authors.

intelligence differently. Furthermore, this study corroborates assertions from extant studies that religiosity differs from spirituality. Nigeria is currently ranked as the second most religious country globally (WEF, 2017). Despite the country's high religiosity, the respondents' interpretation of spiritual intelligence varied. The reduction of items for the measurement of transcendental awareness, for instance, increased the reliability of this dimension. Therefore, it may be apt to suggest that there are contextual factors that influence the meanings and interpretations associated with spiritual intelligence.

There is little doubt that spiritual intelligence is a multidimensional construct. Prior to King and DeCicco's (2009) four-factor model, Gardner (1983), Emmons (2000a), and Amram (2007) had proposed different dimensions of spiritual intelligence. Our analysis of spiritual intelligence using a sample from Africa attests to its multidimensionality. The results suggest that there may be more dimensions to spiritual intelligence. For CET, for example, our results show that our respondents take it for granted that *God* exists. So, participants conduct existential thinking, but perhaps not along the lines of questioning the existence of *God*. These results also suggest that the dimensions of spiritual intelligence may vary across contexts. We recommend that various models of spiritual intelligence be tested using samples from across the world, and perhaps a global sample if possible.

Another implication of the results relates to the locus of intelligence in Africa, and sub-Saharan African (SSA). Perhaps the locus of intelligence in SSA, especially spiritual intelligence, is different from the locus of intelligence in other settings (Giannone and Kaplin, 2017; Winston, Sumathi and Maher, 2013). Hofstede's (1980) classification of countries according to different cultural dimensions classifies most countries in SSA, including Nigeria, as collectivist countries. Therefore, future research could, for example, investigate the locus of spiritual

intelligence in SSA. The interaction and interactive processes that affect people's perception of spiritual intelligence in collectivist settings could also be explored for further insights into the locus of spiritual intelligence.

As this study only relied on data collected from a limited non-probabilistic sample in Nigeria, the authors are cautious about generalizing the findings to other similar contexts in sub-Saharan Africa (SSA) or even to similar settings in Nigeria, a very heterogeneous country with over 200 ethnic divisions. Data from other contexts in SSA may fit the four-factor model better than that derived from this study. Moreover, data was collected from only one university in Nigeria⁹. Consequently, results and findings of this study may not apply to all Nigerians. Therefore, we call for a cautious interpretation and generalization of these results and findings to all Nigerians, and indeed Africans in general. Hence, we also reiterate our call for more research using data that can be more generalizable, and from other countries in Africa and across the globe, especially using a randomly selected sample. A qualitative micro-level analysis of what and why individuals give different interpretations to spiritual intelligence will provide tangible results. In this light, interviews and other appropriate qualitative methods may yield insights that cannot be revealed using a study based solely on quantitative methods. A qualitative study may be a first step in arriving at a unique self-report measure of spiritual intelligence for the African context. Findings from this study suggest that perhaps different settings may require different self-report measures of spiritual intelligence or an adaptation of SISRI-24.

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⁹ *There are a total of 171 universities in Nigeria (NUC, 2020).*

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Disclosure statement

No potential conflict of interest.